

13

DART AEROSPACE LTD	Work Order:	21494
Description: Ø2.250 Support	Part Number:	D2891-1
Dwg: D2891 Rev. A1	Qty:	18 <del>18</del>

Page 1 of 1

RF  
03.06.09

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller. Blank size makes (2) D2891-1 Dwg not required	JF	04/09/16	16
2	PG	Issue P/O: 1001884 Description: D6104-003 Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104 Material release note required.		04/09/16	10
3	RG	Receive and Inspect for raw material dimensions. Ensure material release note is attached.	CD	04/09/23	10
4	MS	Turn blank for Haas as per Folio FA046	GP	05/02/26	10
5	QC1	Inspect all dimensions as per Dwg D2891	GP	05/02/26	10
6	MV	Machine as per Folio FA046	JNL	05/04/22	9
7	MV	Tumble & Deburr	JNL	05/04/22	9
8	QC1	Inspect all dimensions to inspection sheet as per Dwg D2891	JNL	05/04/22	9
9	QC8	Inspect dimensions for second check	EC	05/04/25	9
10	FP	Powder Coat White (4.3,5.2) per QSI 005 4.3	MM	05.05.02	9
11	QC3	Inspect Powder Coat	CD	05/05/03	18
12	ST	Identify and stock	CD	05/05/03	18
13	AC	Cost / part 66.92	5AC	05.05.05	16
14	DC	Close W/O 60.60 Inspect Level 21	JF	05.05.18	18

Rev	Date	Change	Revised By	Approved
A	00.12.19	New issue	EC	
B	01.07.17	Reformat	EC	
C	02.11.26	Added P/O	KJ / RF R4	Q

RELEASED  
02-11-24 RF

Work Order:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Manuf / Design Mgr	Approval QC Inspector

NCR		WORK ORDER NON-CONFORMANCE							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Sign & Date Section C	Approval Design Mgr	Approval QC Inspector	
05/02/25	#4	one part turned in back when Boring (Drilling inside Bore)	Initial 18 004542	destroy	EV	18 05/02/25	M 05/02/25	18 05/02/25	

PAR#: N/pFault Category: N/ADQA: Q9Date: 05/05/18

NOTE: Date & initial all entries  
H:\Admin-QA\ISO\forms\w\oncB.doc

QA: N/C Closed: \_\_\_\_\_

Date: \_\_\_\_\_

DART AEROSPACE LTD	Work Order:	21494
Description: Ø2.250 Support	Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
<b>Lathe Section</b>									
A	2.274	2.279		2.275	2.276	2.276	2.275		
B	3.702	3.722		2.712	2.708	2.708	2.708		
C	2.564	2.584		2.578	2.579	2.579	2.579		
D	0.718	0.738		0.724	0.724	0.724	0.724		
E	0.090	0.110		0.109	0.099	0.101	0.099		
F	2.464	2.484		2.478	2.478	2.478	2.478		
G	2.029	2.049		2.039	2.036	2.034	2.036		05/04/26
H	2.964	2.984		2.978	2.977	2.976	2.975		
I	0.913	0.933		0.924	0.924	0.924	0.924		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.100	0.099	0.098	0.100		
L									

HAAS Section									
AA	0.188	0.193	DT8706						
AB	0.240	0.260		0.253	0.248	0.247	0.253		
AC	0.115	0.150		0.130	0.132	0.130	0.130		
AD	0.040	0.060		0.047	0.047	0.050	0.050		
AE	0.010	0.020		0.016	0.010	0.010	0.010		
AF	0.240	0.260		0.250	0.250	0.250	0.250		
AG	0.290	0.310		0.300	0.300	0.305	0.304		
AH	0.115	0.150		0.143	0.142	0.142	0.143		
AI	0.454	0.474		0.459	0.457	0.457	0.460		
AJ	2.779	2.789		2.782	2.782	2.782	2.783		
AK	0.240	0.260		0.250	0.250	0.250	0.256		
AL	1.002	1.042		1.031	1.030	1.025	1.030		
AM	0.053	0.073		0.063	0.063	0.063	0.063		
AN	0.257	0.262	DT8683						
AO	1.663	1.683		1.675	1.673	1.673	1.673		
AP	0.053	0.073		0.063	0.063	0.063	0.063		
AQ	0.022	0.042		0.032	0.032	0.032	0.032		
AR									
AS									

**Accept/Reject**

Measured by:	gml
Date:	05/04/21

Audited by:	TG
Date:	05/04/21

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	RF

RELEASED  
03.07.21 RF

DART AEROSPACE LTD				Work Order:	21494
Description: Ø2.250 Support				Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1				Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions						
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date	
<b>Lathe Section</b>										
A	2.274	2.279		2.278	2.278	2.277	2.278			
B	3.702	3.722		3.708	2.708	2.707	2.708			
C	2.564	2.584		2.578	2.579	2.579	2.579			
D	0.718	0.738		0.724	0.722	0.724	0.724			
E	0.090	0.110		0.099	0.099	0.099	0.099			
F	2.464	2.484		2.479	2.478	2.478	2.478			
G	2.029	2.049		2.034	2.033	2.033	2.034			
H	2.964	2.984		2.981	2.980	2.979	2.978			
I	0.913	0.933		0.924	0.924	0.924	0.924			
J	0.022	0.042		0.032	0.032	0.032	0.032			
K	0.090	0.110		0.100	0.100	0.100	0.100			
L										
<b>HAAS Section</b>										
AA	0.188	0.193	DT8706	0.252	0.253	0.254	0.254	MP	05/04/22	
AB	0.240	0.260		0.132	0.139	0.136	0.130			
AC	0.115	0.150		0.047	0.047	0.047	0.049			
AD	0.040	0.060		0.010	0.010	0.010	0.010			
AE	0.010	0.020		0.250	0.256	0.250	0.250			
AF	0.240	0.260		0.306	0.306	0.308	0.305			
AG	0.290	0.310		0.142	0.143	0.143	0.143			
AH	0.115	0.150		0.480	0.464	0.461	0.462			
AI	0.454	0.474		2.784	2.784	2.783	2.783			
AJ	2.779	2.789		0.250	0.256	0.256	0.250			
AK	0.240	0.260		1.032	1.031	1.032	1.030			
AL	1.002	1.042		0.063	0.063	0.063	0.063			
AM	0.053	0.073		1.668	1.667	1.675	1.674			
AN	0.257	0.262	DT8683	0.063	0.063	0.063	0.063			
AO	1.663	1.683		0.063	0.063	0.063	0.063			
AP	0.053	0.073		0.032	0.032	0.032	0.032			
AQ	0.022	0.042								
AR										
AS										
<b>Accept/Reject</b>										

Measured by:	gml
Date:	05/04/22

Audited by:	TSL
Date:	05/04/22

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	#

RELEASED  
03.07.01 RF

DART AEROSPACE LTD				Work Order:	21494
Description: Ø2.250 Support				Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1				Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
<b>Lathe Section</b>									
A	2.274	2.279		2.277	2				
B	3.702	3.722		3.704					
C	2.564	2.584		2.576					
D	0.718	0.738		0.724					
E	0.090	0.110		0.099					
F	2.464	2.484		2.478					
G	2.029	2.049		2.035					
H	2.964	2.984		2.977					
I	0.913	0.933		0.924					
J	0.022	0.042		0.032					
K	0.090	0.110		0.098					
L									
<b>HAAS Section</b>									
AA	0.188	0.193	DT8706						2/29/02
AB	0.240	0.260		0.250					
AC	0.115	0.150		0.128					
AD	0.040	0.060		0.050					
AE	0.010	0.020		0.010					
AF	0.240	0.260		0.250					
AG	0.290	0.310		0.300					
AH	0.115	0.150		0.142					
AI	0.454	0.474		0.460					
AJ	2.779	2.789		2.783					
AK	0.240	0.260		0.250					
AL	1.002	1.042		1.030					
AM	0.053	0.073		0.063					
AN	0.257	0.262	DT8683						
AO	1.663	1.683		1.672					
AP	0.053	0.073		0.063					
AQ	0.022	0.042		0.032					
AR									
AS									
<b>Accept/Reject</b>									

Measured by:	one	Audited by:	BS
Date:	05/04/02	Date:	05/04/02

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	#

RELEASED  
03.07.01 RF

Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Sep 16, 2004  
07:37 am

Work Order No : 0021494  
 Project Name : D2891-1  
 Project For : WK443  
 Work Order Type : Main  
 Main WO Number :  
 House Part Number : D2891-1  
 Description : Support 2.25 dia  
 Manufactured : Yes  
 Amount Req'd : 16  
 Amount Done : 0  
 Start Date : 09-15-04  
 Est Finish Date : 10-22-04  
 Act Finish Date :  
 Drawings Reqd : No  
 Ok for Approval :  
 Approval Rec'd : \$0 Posted to Finished Goods

Department Code:  
 Burden Flags : NNNNNNN  
 WO Status : Open  
 Invoice State : Not Invoiced  
 Invoice Date :  
 Invoice Number :  
 Invoice Amount : 0.00

Order Entry No :  
 OE Value : 0.00

Est Margin : 0.000%  
 Actual Margin : 0.000%

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
===== ===== =====					
Burden :	0.00	0.00	0.00		
===== ===== =====					
Total Cost :	0.00	0.00	0.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/ (Loss) :	0.00	0.00



ONE COPY ISSUED

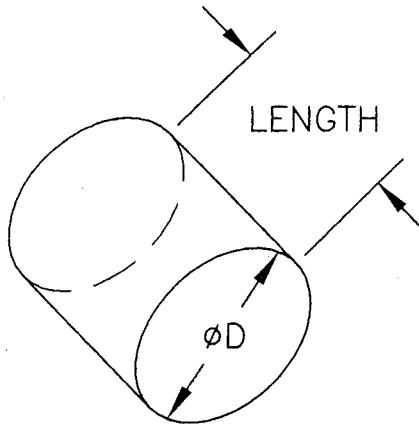
DESIGN RF	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED 	APPROVED 	DRAWING NO. D6104	Rev. B	SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS	
A	01.04.10	NEW ISSUE		
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS		

RELEASED

02.11.29

## SPECIFICATION CONTROL DRAWING

CONTROLLED COPY



REFERENCE ONLY

MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRc)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

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# GLORIA MATERIAL TECHNOLOGY CORP.

## INSPECTION CERTIFICATE

台南縣新營市新中路35號1樓  
TEL: (06)6520000  
FAX: (06)6520088

PO# C94094

Messrs: PROGRESSIVE ALLOY STEEL UNLIMITED L.L.C.

Order No: 2003002845

Grade: 17-4 PH

P.O.NO.: 2747

FILE NO: 2003004705-A

Size: 3-1/4"

Date: 11/26/2003

HEAT-Lot No: R1605-C30 ✓

Weight: 1121.0KG

P'cs: 8

Condition: HR-Solution Annealed-Smooth Turned

### Chemical Composition (wt%)

C	Si	Mn	P	S	Ni	Cr	Mo	Co
Min.				0.015	3.00	15.00		3.00
Max.	0.07	1.00	1.00	0.040	0.030	17.50	0.50	5.00
Result	0.02	0.41	0.65	0.024	0.030	4.54	15.78	3.28

G-20-04  
Defect  
1Y1427  
Qty. 92  
Part # 1326  
Part # 1326  
Part # 1326

### Nb+Ta

Min.	0.150
Max.	0.450
Result	0.300

### Mechanical Properties Spec.

Hardness(1/2R)	δ-Ferrite	H900-Hardness(Avg.)
Spec. Min.		40HRC
Spec. Max.	363HB	47HRC
Result	306HB	43.3HRC

These test results are not included in your PO# 2006641

from TAIWAN GLORIA MATERIAL TECHNOLOGY

Quality Representative

### Customer Part #

Unit	Elongation(A)	Tensile Strength(Rm)	Yield Strength(Rp)	Reduction of Area(2)
Min.	10	190	170	35
Max.				
Result	15	199	178	47

### Non-Metallic Inclusions :(AMS 2303C)

Severity	Frequency
Max.	0.8
Result	0

### Specification:

1. ASTM A484-98, A564-99, A370-97a., 2. ASME SA484(1998), SA564(1998), 3. AMS 5643P, 2303C(Magnetic Particle Test), 4. EN 10204/3.1.B., 5. UNS #S17400., 6. SAE AMS-H-6875.

### Remark:

1. MANUFACTURING PROCESS: EAF+VOD+FORGED OR HOT ROLLED., 2. MATERIAL IS FREE FROM MERCURY CONTAMINATION., 3. MACRO/MICRO OK., 4. NO REPAIR BY WELDING., 5. DELTA-FERRITE CONTENT 5% MAX. AS PER AMS 2315., 6. MECHANICAL PROPERTIES TESTED AS PER H900 CONDITION., 7. SOLUTION TREATMENT: 1900°F x 4HOURS, RAPIDLY COOLED TO BELOW 90°F., 8. MAGNETIC PARTICLE TEST IS ACCORDING TO AMS 2303C.



Our quality and environment management systems have been certified by ISO 9001 QMS and 14001 EMS.  
We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.

Hsin-Jung Huang  
OA SECTION  
12/26/2003

~~z~~ z - 9.250, R. 125

~~z~~ 9.250